

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

REC'D 15 NOV 2002

WIPO PCT

| | | |
|--|--|--|
| Applicant's or agent's file reference 110/02074 | FOR FURTHER ACTION | see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below |
| International application No. PCT/IL02/00077 | International filing date (day/month/year) 28 January 2002 (28.01.2002) | (Earliest) Priority Date (day/month/year) 28 January 2001 (28.01.2001) |
| Applicant MORDECHAY BEYAR | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title:



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract:



the text is approved as submitted by the applicant.



the text has been established, according to Rule 33.2(a), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 1A.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL02/00077

Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

NEW ABSTRACT

An intra-vertebral spacer (20) that can be inserted using a narrow diameter needle (60) is presented. The spacer having a first diameter is inserted and is then expanded to a second, much larger diameter. The radial expansion of the spacer is utilized to achieve a high intra-vertebral fill, without an overly invasive surgical procedure. The spacer may have one of a family of geometrical structures useful for an expanding spacer, for example a plurality of spikes (24) having the same or differing length, are defined around the circumference of the tube (22), so that the tube "expands" in all directions. In an example shown, the spike arrangement and/or length conforms to an expected shape of the inter-vertebral space.

INTERNATIONAL SEARCH REPORT

International application No.:

PCT/IL02/00077

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61F 2/44
US CL : 623/17.12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 623/17.12; 17.16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched:

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used):

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 5,102,413 A (PODDAR) 07 April 1992 (07.04.1992); column 3; lines 23-63; Figures 1, 3 and 5-6; see entire document. | 1 |
| A | US 5,571,189 A (KUSLICH) 05 November 1996 (05.11.1996); see entire document. | 1 |
| A | US 5,827,289 A (REILEY et al.) 27 October 1998 (27.10.1998); see entire document. | 1 |
| A | WO 98/38918 A1 (BEYAR et al.) 11 September 1998 (11.09.1998); see entire document. | 1 |

☐ Further documents are listed in the continuation of Box C.

See patent family annex.

Special categories of cited documents:

| | |
|--|---|
| *A* document defining the general state of the art which is not considered to be of particular relevance. | *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention. |
| *E* earlier application or patent published on or after the international filing date. | *X* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone. |
| *U* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified). | *Y* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. |
| *O* documents referring to an oral disclosure, use, exhibition or other means. | *A* document member of the same patent family. |
| *P* document published prior to the international filing date but later than the priority date claimed. | |

Date of the actual completion of the international search:

27 June 2002 (27.06.2002)

Date of mailing of the international search report:

12 NOV 2002

Name and mailing address of the ISA/US:

Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Authorized officer:

Javier G. Blanco

Facsimile No. (703)305-3230

Telephone No. 703-605-4259